

## A Contrast of Qualitative & Quantitative Research

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under the direction of her handler, Charlie Dean



One of my human handlers asked me to comment on the academic arguments of qualitative and quantitative research. First I will say that I am appalled at how the human species thinks so highly of itself. Even when doing research, members of the human species have an almost uncontrollable urge to alter the subject matter of their research so that they can apply their chosen method of research. It is like changing the shape of a glass to fit the drink.

I have above average insight into haughty or supercilious human expositions, because my eyes are almost as much on the top of my head as they are on the sides, and this gives me the capacity to discern the true nature of a lofty situation.

The humanoid collision of the Qualitative and Quantitative schools of thought seems like a distinction with little difference. Any argument seems a priori to which standard of proof the researcher requires and can reasonably squeeze out of the data at hand. "You can't make a silk purse of a sow's ear." Well, maybe yall humans can.

If the Qualitative and Quantitative researchers will each consider themselves as dependent variables, and consider the subject matter of their research as independent variables, they will each be more amenable to mixed-method research strategies. I know this is difficult for humans to do.

### **The Subject Matter at Hand Ought to Drive the Method of Research.**

Whether a researcher's interest is finding some general law-like statements or explaining a particular event, that interest ought to be the **independent variable**, and the **dependent variable** ought to be the method of research; not the other way around. Stated another way, the different approaches to explanation ought to be **dependent variables**, and the stuff that needs explaining ought to be **independent variables**.

Though "qualitative researchers often think about causation in terms of necessary and/or sufficient causes," ... "in order to explain outcomes in particular cases," their sampling

pool is conveniently small enough to allow this. [Mahoney, 2006] The qualitative approach would address an individual case and the contrast between control and treatment. But again, the particular situation of the individual case (**independent variable**) is what allows, or drives, the qualitative approach (**dependent variable**). So this method of research (**dependent variable**) is driven or at least permitted by the small sampling pool (**independent variable**). It is sort of like cracking pecans; you have got to have some pecans (**independent variable**) in order to use your pecan cracker (**dependent variable**).

The quantitative approach addresses multiple cases and the causal effect for multiple observations through the comparison of groups. And the particulars of the multiple cases (**independent variable**) is what allows, or drives, the quantitative approach (**dependent variable**).

The **qualitative boys** like to study causal effect and they have several names for this: the “mean causal effect,” and the “average treatment effect,” and the “average causal response,” and the “average causal effect.” This causal effect may be impossible to observe, especially if there is no specific unit to scrutinize. Remember my pecan cracking story. When this happens, the **quantitative boys** happily replace the causal effect observance with their “possible-to-estimate average causal effect of the treatment over a population of units.” [Mahoney, 2006] In other words, if you cannot scrutinize the causal effect of just one pecan, you can examine the whole basket of pecans as a group.

One or the other school of thought (**independent variable**) may force or impose a method (**dependent variable**) that assumes an understanding that does not comport with the situation under investigation. Fasten your seatbelt! If we allow the method of research to be the **independent variable**, and if the method fails to comport with the situation under investigation (**dependent variable**), you can see that the choice of research method just might drive the results. This might give new meaning to “dichotomy.”

Even in a multivariate situation (observation and analysis of more than one variable at a time) or an equifinality situation (multiple causal paths to the same outcome), it is the particulars of the situation (**independent variable**) that we are scrutinizing that allows a particular approach (**dependent variable**) to be used. Or at least this is the way it ought to be if we want the truth. The application of a research method ought not to be like forcing a pentagon-shaped peg into a hexagon-shaped hole.

### **What to Target**

This is like deciding whether to pass or punt. From an academic position, the qualitative camp goes for a smaller sample, tighter causation standards, logic outcome explanation, is more case-oriented, and targets independent variables, and calls this the “causes-of-effects approach.” The quantitative camp goes for a larger sample, more use of use of numbers and statistics, looser causation standards, effect estimation, is more population-oriented, and targets the dependent variables, and calls this the “effects-of-causes approach.” **Notwithstanding these lines in the sand, the quantitative boys do not mind sneaking into the qualitative camp to borrow words of interpretation.**

**Meanwhile the qualitative boys get even by borrowing quantitative information to prop up their qualitative techniques. [Mahoney, 2006] The human species does not appear to count this among its intellectual property crimes.**

The only down to Earth allegory I can think of is that the **qualitative** researchers would study the population of the Clemens Prison Unit (**dependent variables**) to determine why so many Texans (**independent variables**) are incarcerated. The **quantitative** researches would choose the general population of Texas (**independent variables**) to determine why so many Texans are incarcerated (**dependent variables**).

Still, deciding **what to target** subsumes the issue of one's preferred **standard of proof**.

### **Standards of Proof**

Mahoney et al (2006) does not speak about the standards of proof (levels of proof required) per se, but he does by innuendo. A researcher may want to show patterns of association between variables, estimations of the size of effect, insight into causal mechanisms, insight that is essential to causal assessment, or correlational-based causal inference. [Mahoney, 2006] Simply fitting a theory to the data is not as simple as always having a square peg handy to put into a square hole. The situation at hand may require that a researcher whittle on his peg so that it will fit. Whittling on the hole would be cheating.

A researcher may want to show that “A causes B” or that “A is a cause of B.” Here, “A” could be a producing cause, a proximate cause, or a sole cause. [Mahoney, 2006] The researcher can pick the level of proof that he would like to show, or not show. But in any event, the operative element is **what the researcher wants to show** and **this subsumes a standard of proof**.

A researcher may want to show that “without X, Y would not have occurred.” He had better be careful because, when accepting the statement on its face, “X” could have produced “Y” by itself or in conjunction with one or more other factors which cumulatively led to the “Y” event. But think about a chain of events such as a row of dominoes falling one after the other. The above scenario could be re-couched as “if A had not occurred, the event B would not have occurred.” [Mahoney, 2006] A researcher has a lot of power over the outcome of his study.

A researcher can get really innovative with what he wants to show: “neither [is] individually or necessary nor individually sufficient for an outcome” ... however “one cause [is] within a combination of causes that are jointly sufficient for an outcome.” [Mahoney, 2006] Again the operative element is **what the researcher wants to show** and **this subsumes the standard of proof**.

A researcher may want to show “combinations of variables values that are sufficient for outcomes of interest.” Again, a **standard of proof is subsumed** here. A researcher can

couch what he wants to show in more than one way, such as, “C causes E” and “whenever C, then E.” [Mahoney, 2006]

A research can carelessly couch what he is looking for in a manner that leads to an incomplete conclusion, such as, “X1 and X2 are not individually sufficient for the outcome.” I do not know what standard of proof this would be. [Mahoney, 2006] It could depend on whether X1 and X2 are together sufficient for the outcome, assuming they exist together. But this result may be exactly what a research wants; it is his option to choose a wobbly standard of proof-intentionally or inadvertently.

### **Summing it Up**

- The substance of what gets investigated determines the method of research.
- The method of research can be tweaked by the researcher.
- The researcher determines what he wants to show (the question he wants to answer).
- The standard of proof is subsumed by the question to be answered.

### **REFERENCES:**

Mahoney, James, Goertz, and Gary. "A Tale of Two Cultures: Contrasting Quantitative and Qualitative Research." *Political Analysis* 14 (2006): 227-249.

### **BIBLIOGRAPHY:**

Mahoney, James, Goertz, and Gary. "A Tale of Two Cultures: Contrasting Quantitative and Qualitative Research." *Political Analysis* 14 (2006): 227-249.

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